

**Abstract**

The invention relates to pulse oximeters used to measure blood oxygenation. The current trend towards mobile oximeters has brought the problem of how to minimize power consumption without compromising on the performance of the device. To tackle this problem, the present invention provides a method for controlling optical power in a pulse oximeter. The signal-to-noise ratio of the received baseband signal is monitored, and the duty cycle of the driving pulses is controlled in dependence on the monitored signal-to-noise ratio, preferably so that the optical power is minimized within the confines of a predetermined lower threshold set for the signal-to-noise ratio. In this way the optical power is made dependent on the perfusion level of the subject, whereby the power can be controlled to a level which does not exceed that needed for the subject. (FIG. 1)